

# LEAKAGE DETECTION/PROTECTION METHOD AND APPARATUS FOR COMMONLY GROUNDED CIRCUIT

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## Abstract of JP2002027661

**PROBLEM TO BE SOLVED:** To prevent unwanted operation of a leakage relay which occurs sometimes in the other transforming chamber, if a grounding fault occurs in the secondary side of a transformer in one transforming chamber, in the case where the secondary sides of the transformers are installed in a plurality of transforming chambers, such as a high-rise building.

**SOLUTION:** A neutral point-to-ground voltage detecting means 10 for detecting a voltage  $V_o$  across the neutral point and the ground, a means 20 for detecting a class-B grounding resistor voltage  $V_e$ , a means 30 for detecting a zero-phase current  $I_o$  and a leakage relay 40 are provided. A neutral point-to-ground voltage  $V_n$  under non fault condition is obtained with the leakage relay from  $V_o$  and  $V_e$  values, when a grounding fault is generated for calculating the value of  $I_o/(\sqrt{V_o^2 + V_n^2})$ . When this value is less than the setting level, operation is stopped so as to prevent an unwanted operation.

